SEAWAYS

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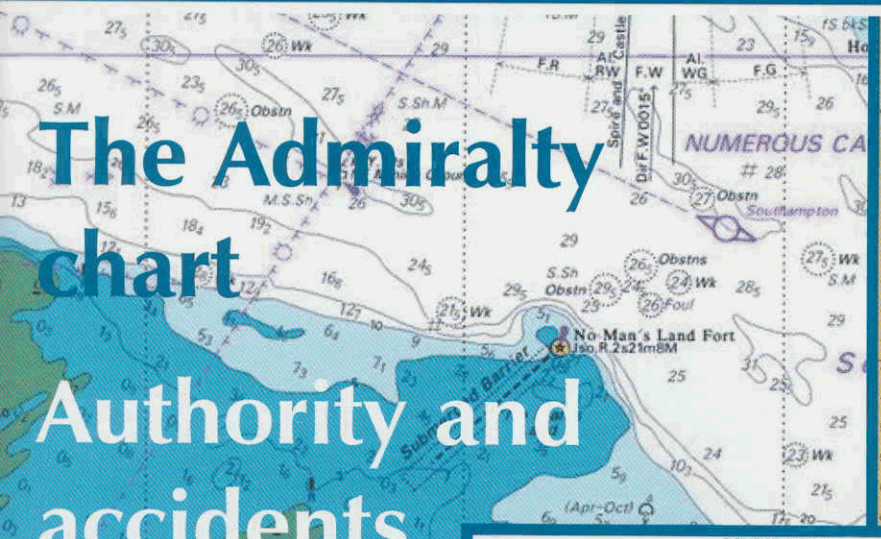
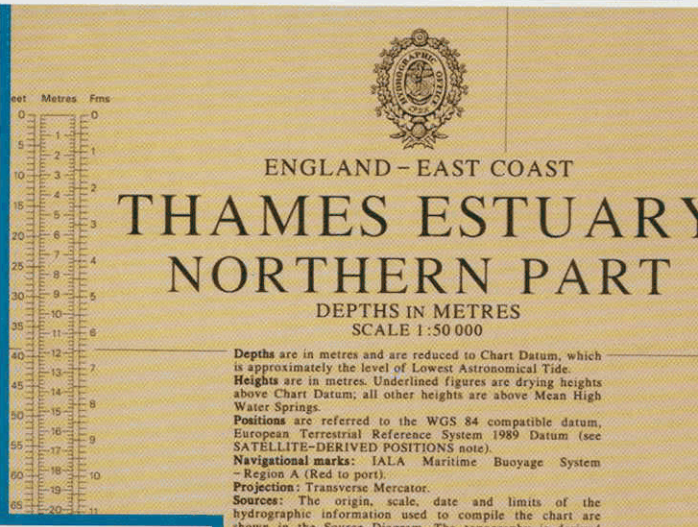
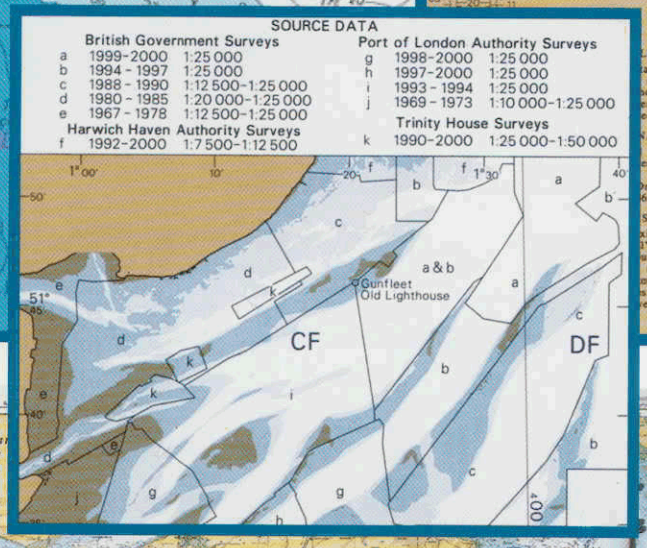
The Admiralty chart

Authority and accidents

SMS







Managing the systems

ISM Code/SMS commentary

Captain Guy Grayson BSc, MNI

This article comes out of personal observation and experience while conducting inspections and investigations as a vessel inspector for the Washington State Department of Ecology (USA). I inspect several hundred ships each year, flying flags of every nation and operating under every type of safety management system imaginable. Our programme conducts over a thousand inspections annually. The article reflects my own opinions and does not necessarily represent the views of the Department of Ecology.

Washington is the only state in the US with a vessel inspection programme per se. While port state control typically inspects for technical items, we have always focused on how vessels are operated and managed. The essence of this is the human factor. We initiated this type of inspection years before the International Safety Management Code (ISM) and Safety Management Systems (SMS) came into being because we recognised the safety value inherent in codified, organised management and operation.

The actual figures from sources vary but it is accepted that human factors account for a proportionately large percentage of the root causes of incidents. This is why ISM is so important. It provides for a measure of structure in the performance of human element tasks in such a way as to reduce the error chain.

There is no doubt that the introduction of ISM has been controversial: in reviewing the comments of maritime professionals, both afloat and ashore, it becomes apparent that the industry is somewhat divided. However, generally, the most effective manner for an industry to pre-empt governmental or regulatory mandates is to address issues and create proactive structured solutions in a timely manner. The business of shipping, an industry immersed in tradition, has historically tended to be on the slow bell while assimilating change. ISM/SMS and STCW force our industry to address the issues of safety and environmental protection.

The physical ISM adoption timeline, by type of vessel, was mandated early on. The current pertinent question is whether or not operating companies have adopted the code with sincere commitment. In my role as an inspector I see a broad spectrum in the quality of safety management systems. A combination of the written documents, vessel and shoreside personnel's knowledge of those documents, operating company support of crews and vessels and implementation/integration of ISM/SMS within the company culture are factors which influence the efficacy (and ultimately the success) of an SMS.

It has been said, that 'good' companies don't need ISM and 'bad' companies do. That is an oversimplification of the issue. An SMS should be a serious 'living document' that is constantly reviewed, assessed and revised to reflect the changing environment in which a company and its fleet operate. It must be eminently practical for those using it for daily operational guidance: ship personnel. Safety management systems were not intended to be, and should not be, millstones around the necks of ships' crews, but rather supportive tools. Truly successful adoption equates to commitment by all parties, both internal and external to the company.

Use it to your advantage

When confronted by masters and officers complaining about how the SMS is burdensome to them, I like to give the following advice: If they fail to master the SMS, they run the risk of the system overpowering them. If they can study and understand the SMS, they can use it to their advantage to ensure that the operator is giving them the support they need to do their job, operating a safe vessel. One clear advantage the SMS gives the vessel is the ability to document non-conformities, both aboard and ashore. This can be a very powerful tool, but only if understood and used.

I regularly observe two types of bad SMS. The first is a system so detailed that it envelops the master and crew like quicksand and they struggle to claw their way through it. They soon begin to tick off their checklists mindlessly. The checklists become a paperwork exercise, often barely even read.

The second system is so generic that the master and crew are provided no concrete and positive guidance. They pretty much have to feel their own way along (as we have done historically). Neither of these is a viable system.

The best type is where there is enough guidance and structure to support the master and crew, but not overburden them with a plethora of excessively detailed paperwork. My observation is that this type of SMS comes about with experience, time and companies who eagerly and conscientiously interact with their masters, chief engineers and crews.

Companies create their individual safety management systems based on the ISM Code: each company has unique operational circumstances that predicates the manner in which they write their SMS documents. My opinion is that governmental support of ISM tends to be insubstantial while port state control appears to be slow, perhaps even reluctant, in using a company's SMS as an investigative/enforcement tool. I predict that will change with time and we are starting to see changes in that arena already. There is also a vastly underused opportunity for regulatory agencies worldwide to improve and support company SMS by providing constructive criticism. And operating companies should improve the ISM concept through

increased communication among themselves, class societies and P&I clubs.

A general comment I hear on boarding vessels is that many inspectors don't provide any positive input but are more intent on finding something wrong. I'll be the first to admit that any inspector can find a deficiency if he/she looks long enough. Good inspectors are valuable participants when they provide useful technical information to improve function or process. Inspectors and auditors (both external and internal) can make valuable contributions to company SMS if they and their organisations have the mindset to share knowledge and experience. Companies need to be receptive to assimilating constructive input and subsequently improving their procedures.

While internal audits are a valuable tool for conscientious companies, they are a little like the fox guarding the hen house for those companies that are merely providing lip service to the ISM/SMS concept.

SMS and fatigue

Recognising that the real issue of the ISM Code lies within its practical application, it is true that there is, indeed, often a great burden placed on ship personnel by the requirements of a company SMS. My opinion is that it is the responsibility and duty of each company to provide one that minimises that burden: often a plethora of redundant SMS paperwork weighs down vessel personnel both physically and mentally. As stated earlier, for an SMS to be successful there must be sincere commitment at the company level, and that attitude must be projected to the vessels. Personnel on the vessels need to feel they are a valued part of the system. All too often I observe that this is not the case. A company that operates and manages vessels needs to be responsible for the quality, efficacy and safety of its SMS.

The issue of fatigue is intertwined with the ISM Code and STCW 95 Convention. Seafaring has always been a stressful, demanding profession. The very nature of the sea and the business of sailing constantly undermine routine. To perform at peak efficiency, the human mind and body has minimum sleep requirements and a need for routine. Yes, we truly are creatures of habit whether we like it or not. Yielding to economic pressure, regulatory authorities of the world have condoned reduced manning while at the same time stressing the importance that human fatigue plays in safety.

Today I see advertisements for seminars on subjects such as 'Managing human fatigue' and 'Increasing human endurance'. I perceive these titles as oxymorons. One cannot manage fatigue or increase human endurance safely past a certain point. You cannot reduce vessel-manning levels below certain thresholds and expect to maintain or increase safety margins. Any way you spell it, safety suffers.

We have seen mariners become scapegoats when fatigue factors contribute to an incident. They are on-scene, easy to put the finger on and replaceable. I believe that in addition to the master and chief mate there should be a return to three watchkeeping deck officers on deep-sea merchant ships for true safety.

I perceive the lack of codified work hour restrictions to be a fatal flaw in STCW and most SMS. The work-hour record keeping I observe for a high percentage of SMS consists of work schedules, not actual true hours worked. Recorded work /rest hours often come into conflict with manning contract overtime limits as companies cringe at the thought of meticulous SMS records showing longer working hours than the crew is being paid for. Is this something that an International Transport Workers' Federation (ITF) inspector would be interested in? The potential ramifications abound. Inaccurate work/rest hour records are relatively easy to debunk and could conceivably be detrimental to a vessel and company in the course of an incident investigation.

Most SMS do not require the master or chief engineer to record work hours even though these two officers make the critical decisions aboard a vessel. I believe that many companies do not want to acknowledge or have recorded the considerable number of hours that these officers often work. It isn't surprising that STCW work-hour recommendations are just that, recommendations.

STCW 95 section A-VIII/1 uses the terminology 'officer in charge of a watch' and 'rating forming part of a watch', which might appear effectively to leave out the master, chief engineer and day-workers for companies that are inclined to split hairs when it comes to SMS work-hour documentation. It is to be noted that STCW section B-VIII/1 does recommend that hours of work or rest of 'seafarers' be maintained.

The International Labour Organisation (ILO) has adopted Convention C180, 'Seafarers' hours of work and the manning of ships convention, 1996' which, came into force on 8 August 2002. Article 8 of the convention requires records of seafarers work or rest be maintained and for the seafarer to be provided a copy of those records. Regrettably, only nine countries have ratified the convention. Washington State inspects work/rest hour records aboard vessels and makes strong recommendations that all vessel personnel keep such records.

Acknowledging the additional burden that GMDSS places upon the bridge, it is important to keep in mind the upcoming requirements for automatic identification systems (AIS) and security officers. These, coupled with the increased positioning of electronic chart and display information systems (ECDIS) on board vessels, will be blended into the future safety and workload mix. I perceive the implementation of AIS as driving the installation of ECDIS systems, enabling bridge teams to cope with the plethora of data that AIS will generate.

Standardising criteria

The importance of education and training cannot be emphasised strongly enough. The quality varies throughout the world: each flag state has its own regimen and standards. STCW 95 has attempted to standardise certain training criteria, which is a good start, but we still have a long way to go. I regularly go aboard vessels and get blank stares when masters and deck officers are asked if they know what bridge resource management (BRM) or bridge team management (BTM) is. That response is unsettling when you consider that STCW 95 certificates requires the holder to have knowledge of BTM. Deck officers had to have those certificates by February 2002 in order to continue sailing internationally. Many SMS do not specifically or clearly address BRM/BTM; yet on the other hand I see cases during inspections where the SMS addresses the subject but the master and deck officers are oblivious to it. BRM/BTM shouldn't just consist of classes and/or certificates but must be an integral part of the onboard everyday navigational culture.

In conclusion, now is an appropriate time for PSC authorities around the world to start monitoring safety management systems aboard vessels along with their technical inspections.

■ If you have thoughts or comments about this article and would like to share them I would be glad to hear from you via *Seaways*.

Meanwhile, for interest, here is a link to our State of Washington spills program website that I believe you will find informative and interesting:
www.ecy.wa.gov/programs/spills/spills.html